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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,069	11/13/2003	Michael J. Czaplicki	1001-132	7915
25215 7590 06/15/2007 DOBRUSIN & THENNISCH PC 29 W LAWRENCE ST SUITE 210 PONTIAC, MI 48342			EXAMINER AFZALI, SARANG	
			ART UNIT 3726	PAPER NUMBER
			MAIL DATE 06/15/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/712,069	<b>Applicant(s)</b> CZAPLICKI ET AL.	
	<b>Examiner</b> Sarang Afzali	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed 4/2/2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-10 and 16-27 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 16-20 and 22-27 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20070402</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. The applicant's amendment filed on 4/2/2007 has been fully considered and made of record.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-4, 6-10, and 16-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 recites the limitation "the expandable material" in line 19. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 9, 16, 24 and 26, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Wycech (US 4,732,806).

Art Unit: 3726

As applied to claims 1, 2, 9 and 16, Wycech teaches a process of forming an assembly comprising the steps of:

providing a thermosettable material, the material being selected from a sheet molding compound/bulk molding compound (col. 1, lines 34-37) including glass fibers (fiberglass cloth 20, col. 3, line 61) and epoxy (coating 22, col. 3, lines 63-65) with glass fiber material being at least 1% by weight of the thermosettable material (fiberglass cloth 20);

molding (compressing in a die by stamping, col. 4, lines 1-4) the thermosettable material at an elevated temperature (room temperature is considered an elevated temperature since its above 0 degree Celsius/32 degrees Fahrenheit) to form a carrier member (body 18 without macrospheres 24, , Fig. 1);

applying a heat foamable activatable material (one or two-part epoxy adhesive coating on the plurality of glass macrospheres 24, col. 4, lines 12-22) to a surface of the carrier member (body 18) for forming a reinforcement (reinforcement body 18 including glass microspheres 24 coated with one or two-part epoxy adhesive, Fig. 1);

placing the reinforcement member (18, Fig. 1) within a cavity of an automotive vehicle (cavity 23 of the vehicle body structural member 10, Fig. 1), the cavity being defined by one or more walls (walls 12, 14, and 16, Fig. 1) of a structure of the automotive vehicle; and

activating the activatable/expandable material (epoxy expands in the plurality of voids/cavities between reinforcing member and the walls of the vehicle structure) to form an epoxy based structural foam that is adhered to the carrier member and the

Art Unit: 3726

surface or walls of the structure of the automotive vehicle, the structural foam having a high compressive strength (col. 4, lines 33-45).

Note that it is inherent that the thermosettable material (fiberglass cloth 20) includes at least 1% fibrous reinforcement material (within the claimed range of claim 1) in order to be considered a fiberglass material and furthermore, it is inherent that a fiberglass cloth includes polyester or vinyl ester (claim 16) as its main component.

As applied to claim 24, '806 Wycech teaches a shell configuration (U-shape, col. 4, lines 1-5).

As applied to claim 26, '806 Wycech teaches the vehicle body structural member (10, Fig. 1) is a pillar (including a D-pillar or any other type of pillar).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (US 4,732,806) in view of Wycech (US 5,755,486).

As applied to claim 3, '806 Wycech teaches the invention cited but do not explicitly teach the resin content by percent of weight.

However, '486 Wycech teaches a method of making a reinforced structural member in an automotive body including a the resin (vinyl resin, col. 5, lines 31-32)

Art Unit: 3726

content from about 45% to about 70% by weight (overlaps the claimed range of about 30% and about 60% by weight) to provide a low density, high strength material which is strong and yet light-weight (col. 5, lines 5-9).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with a resin content as taught by '486 Wycech in order to provide an effective and high strength structural member.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (US 4,732,806) in view of Schmidt et al. (US 3,692,620).

'806 Wycech teaches the claimed invention with the exception of explicitly teaching the material of the curing agent.

However, Schmidt et al. teach a method of making laminated boards by molding a thermosettable material (polyester resin, col. 3, lines 46-52) wherein benzoyl peroxide is used as curing agent (col. 3, lines 58-59).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with a curing agent as taught by Schmidt et al. in order to provide an effective means of setting and hardening the molded thermosetting resin.

10. Claims 6, 7 and 22, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (US 4,732,806) in view of Omente et al. (US 5,767,177).

'806 Wycech teaches the claimed invention with the exception of explicitly teaching the reinforcing material content of 10% to 40%.

However, Omente et al. teach a method of making a thermosettable material used in motor vehicle body parts (col. 1, lines 1-3) wherein reinforcement fibers of high mechanical strength (glass fibers) in the amount of 12.5% to 22.5% (col. 1, lines 36 & 37) by weight of the thermosettable material (within the claimed range of 10% to 40%) are used to improve the impact strengths of the material.

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with the glass fiber content as taught by Omente et al. in order to provide a composition with effective and improved structural/mechanical strength.

As applied to claims 7 and 22, '806 Wycech/Omente et al. teach the claimed invention with the exception of explicitly teaching that greater than 50% of the fibers have a length greater than about 1.5 inches.

It would have been obvious matter of design choice to use a length of greater than about 1.5 inches for greater than 50% of the fibers used, since applicant has not disclosed that only the above mentioned length can be used to resolve any stated problem and further states that the fibers for the reinforcement material may be highly variable in length depending on the molding compound and depending upon the processing that the molding compound will undergo (specification, page 5, lines 5-7), therefore, it appears that the invention would perform equally well with other lengths as one with ordinary skill in the art finds suitable to use in order to provide adequate and

Art Unit: 3726

effective fiber length for adequate number of grains resulting in a strong reinforcement material used in a particular process.

11. Claims 8, 10 and 25, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (US 4,732,806).

As applied to claims 8 and 25, '806 Wycech teaches the claimed invention with the exception of explicitly teaching the strips (multiple) of substantially uniform thickness.

However, the Examiner takes official notice that it is well known in the art to apply an activatable material to a surface of an article/member using any suitable technique such as coating a substantially uniform thickness of a liquid substance and/or attaching a strip or multiple strips of substantially uniform thickness of a solid substance to a surface/surfaces of an article/member since they both would provide similar/desired finished end products.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify '806 Wycech by using a substantially uniform thickness strip/strips of the activatable material to provide an effective means of a reinforcement into an automotive vehicle structure.

As applied to claim 10, '806 Wycech teaches the claimed invention with the exception of explicitly teaching the molding temperature for forming the thermosettable material into a carrier member.



It would have been obvious matter of design choice to use a suitable temperature range for molding the thermosettable material, since applicant has not disclosed that only the above mentioned temperature range can be used to resolve any stated problem (specification, page 7, lines 1-3), therefore, it appears that the invention would perform equally well with other temperatures as one with ordinary skill in the art finds suitable to use in order to provide adequate and effective molding temperature for any particular thermosettable material that would result in a strong reinforcement/sealing member.

12. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as obvious over Wycech (US 4,732,806) in view of Agrawal et al. (US 5,707,473).

As applied to claim 17, '806 Wycech teaches the claimed invention including the step of applying the activatable material includes contacting the activatable material with the surface of the carrier member as the temperature of the carrier member declines from elevated temperature achieved during the molding step, such contacting thereby softening a portion of the activatable material with the heat of the carrier member to wet the surface of the carrier member; and allowing the softened portion of the activatable material to harden and adhere the activatable material to the carrier member (col. 4, lines 32-45, Figs. 1 & 2).

In the alternative, it would have been obvious matter of design choice to use any suitable method of attaching and bonding the activatable material to the carrier member, since applicant has not disclosed that only the above mentioned method can be used to

Art Unit: 3726

resolve any stated problem, it appears that the invention would perform equally well with other attaching means as one with ordinary skill in the art finds suitable to use in order to provide an adequate and effective bonding between the activatable material and the carrier member.

Furthermore, note that Agrawal et al. teach a method for bonding an attachment member to a substrate in order to make a panel assembly wherein the bond between the attachment member and the substrate is achieved by an adhesive, set cured or hardened by the addition of heat, prior to, during and/or after the molding process (col. 3, lines 14-17).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with the detailed bonding and adhering steps as taught by Agrawal et al. in order to provide an effective bonding between the two members of an assembly.

As applied to claim 18, '806 Wycech teaches a process wherein the activatable material is applied to the carrier member as a plurality of shaped pieces (plurality of glass macrospheres 24 with a plurality of epoxy grains with plurality of shapes coated on the macrospheres, Fig. 2).

13. Claims 19 and 20, are rejected under 35 U.S.C. 103(a) as obvious over Wycech (US 4,732,806) in view of Agrawal et al. (US 5,707,473), as applied to claim 18, and further in view of Barz et al. (US 6,103,341).

As applied to claims 19 and 20, '806 Wycech teaches the invention cited with the exception of explicitly teaching the fixture components.

It would have been obvious matter of design choice to use any suitable fixture or device to support the carrier member in order to apply the activatable material to it.

Furthermore, it is inherent that something (such as a fixture or device) is supporting the carrier member during the application of the activatable material onto it, even though that fixture is a tabletop or a palm of a hand.

Furthermore, note that Agrawal et al. teach the step of bonding an attachment member to a substrate and Barz et al. teach a method for forming an assembly using a fixture (20 comprised of actuating arms 28 and carrier member 22 including support member portion and surface portion 24, Fig. 1), the support surface including a plurality of cavities and wherein the contacting of the activatable material (26, Fig. 2) with the surface of the carrier member includes placing the plurality of shaped pieces (26, Fig. 2) into the plurality of cavities (cavities in the surface 24 surrounding embedded portions 34 of the activatable material 26, Fig. 2) and supporting the carrier member upon the support member such that the pieces contact the surface of the carrier member to provide a suitable assembly of parts.

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with the bonding step as taught by Agrawal et al. and with a suitable fixture as taught by Barz et al. in order to provide an effective bonding between activatable material to the carrier member.

Art Unit: 3726

14. Claim 23, as best understood, is rejected under 35 U.S.C. 103(a) as obvious over Wycech (US 4,732,806) in view of Choi et al. (US 2002/0042468).

'806 Wycech teaches the invention cited with the exception of explicitly teaching the filler content of 10%-50% by weight selected from several materials.

However, Choi et al. teaches a method of using a thermosettable material (sheet molding compound) used in an automobile structural member wherein the thermosetting resin composition includes a filler (calcium carbonate, talc, ceramic beads) content of 10%-60% by weight (overlaps the claimed range of 10%-50%) in order to provide a part with superior impact resistance characteristic (paragraph [0013], lines 1-7, paragraph [0018, lines 1-8]).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with the filler content range of Choi et al. in order to provide an effective and suitable material with superior impact resistance characteristic used in an automobile structural member.

15. Claim 27, as best understood, is rejected under 35 U.S.C. 103(a) as obvious over Wycech (US 4,732,806) in view of Omente et al. (US 5,767,177) and Choi et al. (US 2002/0042468).

'806 Wycech teaches the claimed invention including a shell configuration (U-shape, col. 4, lines 1-5) and the vehicle body structural member (10, Fig. 1) being a pillar (including a D-pillar or any other type of pillar) but it fails to explicitly teach the following:

the reinforcing material content of 10% to 40% and the greater than 50% of the fibers having a length greater than about 1.5 inches (claims 6, 7 and 22);

the filler content of 10%-50% by weight selected from several materials (claim 23);

carrier member shell shape configuration (claim 24);

activatable material comprising multiple strips (claim 25); and

structure being a D-pillar (claim 26).

Omente et al. teach a method of making a thermosettable material used in motor vehicle body parts (col. 1, lines 1-3) wherein reinforcement fibers of high mechanical strength (glass fibers) in the amount of 12.5% to 22.5% (col. 1, lines 36 & 37) by weight of the thermosettable material (within the claimed range of 10% to 40%) are used to improve the impact strengths of the material.

Choi et al. teach a method of using a thermosettable material (sheet molding compound) used in an automobile structural member wherein the thermosetting resin composition includes a filler (calcium carbonate, talc, ceramic beads) content of 10%-60% by weight (overlaps the claimed range of 10%-50%) in order to provide a part with superior impact resistance characteristic (paragraph [0013], lines 1-7, paragraph [0018, lines 1-8]).

It would have been obvious matter of design choice to use a length of greater than about 1.5 inches for greater than 50% of the fibers used, since applicant has not disclosed that only the above mentioned length can be used to resolve any stated problem and further states that the fibers for the reinforcement material may be highly

Art Unit: 3726

variable in length depending on the molding compound and depending upon the processing that the molding compound will undergo (specification, page 5, lines 5-7), therefore, it appears that the invention would perform equally well with other lengths as one with ordinary skill in the art finds suitable to use in order to provide adequate and effective fiber length for adequate number of grains resulting in a strong reinforcement material used in a particular process.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with the glass fiber content as taught by Omente et al. in order to provide a composition with effective and improved structural/mechanical strength.

It would have further been obvious to one of ordinary skill in the art at the time of invention to have provided '806 Wycech with the filler content range of Choi et al. in order to provide an effective and suitable material with superior impact resistance characteristic used in an automobile structural member.

In addition, the Examiner takes official notice that it is well known in the art to apply an activatable material to a surface of an article/member using any suitable technique such as coating a substantially uniform thickness of a liquid substance and/or attaching a strip or multiple strips of substantially uniform thickness of a solid substance to a surface/surfaces of an article/member since they both would provide similar/desired finished end products.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify '806 Wycech by using a substantially uniform thickness strip/strips of

Art Unit: 3726

the activatable material to provide an effective means of a reinforcement into an automotive vehicle structure.

***Allowable Subject Matter***

16. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

17. Applicant's arguments with respect to claims 1-10 and 16-21 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 3726

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

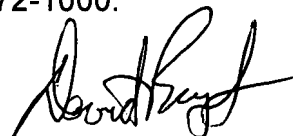
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



SA  
6/7/2007



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6/7/07